clc;

clear;

matlabpath='C:\Users\Acer\Desktop\deep'

data=fullfile(matlabpath,'F\_dataset\_299 size')

train=imageDatastore(data,'IncludeSubfolders',true,'Labelsource','foldernames');

count=train.countEachLabel;

net=densenet201;

layers=[imageInputLayer([299 299])

net(2:end-3)

fullyConnectedLayer(5)

softmaxLayer

classificationLayer

]

opt=trainingOptions('adam','Maxepoch',100,'InitialLearnRate',0.001);

training=trainNetwork(train,layers,opt);

analyzeNetwork(net)

trainednet=trainNetwork(train,layers,opt);

a=imread('person2\_bacteria\_3\_output.jpg')

out=classify(trainednet,a);

figure,imshow(a)

title(string(out))

msgbox(string(out))

[testData]=splitEachLabel(data,1100);

allclass=[]

for ii=1:length(testData.Labels)

I=readimage(testData,ii);

class=classify(trainednet,I)

allclass=[allclass class]

figure(2)

subplot(30,31,ii)

imshow(I)

title(char(class))

end

Predicted=allclass

figure,plotconfusion(testData.Labels,Predicted')